3M

Littmann®

Software

Scope-to-Scope
Software
Version 1.0

User Manual

TS1000C
www.littmann.com

3M™ Littmann® Scope-to-Scope Software TS1000C

Introduction

Congratulations and thank you for choosing to use both the 3M™ Littmann® Scope-to-Scope Software and 3M™ Littmann® Electronic Stethoscope Model 3200 for your tele-auscultation needs.

The combination of the Littmann® Scope-to-Scope Software and the award winning Littmann® Electronic Stethoscope Model 3200 delivers an exceptional sound experience for clinicians at either end of the tele-auscultation experience. It redefines the traditional limits of tele-auscultation by offering a digitally equivalent sound experience at a Consultant Site as heard through the eartips of the Littmann® Electronic Stethoscope Model 3200 at the Patient Site.

Add features like wireless Bluetooth® connectivity, ambient noise reduction technology, and the ability to control the settings on the remote stethoscope and you'll soon discover the richness of the Littmann® Electronic Stethoscope Model 3200 tele-auscultation experience.

Whether you are auscultating infant, pediatric or adult patients, in quiet or noisy environments, or picking up difficult-to-hear heart and body sounds, you'll appreciate all the technology that's been brought to your tele-auscultation experience with the Littmann® Scope-to-Scope Software TS1000C and the Littmann® Electronic Stethoscope Model 3200 with Bluetooth® technology.

Hear it. As if you were there.

SAFETY INFORMATION

Please read, understand, and follow all safety information contained in these instructions prior to using the Littmann® Scope-to-Scope Software. Retain these instructions for future reference.

NOTE: Do not use this software to send or receive any other types of sound other than those indicated by this manual and the Intended Use statement. Doing so may result in sounds that are not reproduced as expected.

NOTE: The Littmann® Scope-to-Scope Software should only be installed on a PC that meets the System Requirements. Installation and activation of the Littmann® Scope-to-Scope Software requires administrative privileges on the PC. However, once the application has been activated, other non-administrative users of the PC can use the software.

U.S.A. ONLY

Caution: Federal law restricts this device to sale by or on the order of a physician.

Intended Use

The Littmann® Scope-to-Scope Software is intended to provide and control real-time data transfer of body sounds between two Littmann® Electronic Stethoscope Model 3200's over a data network. The Littmann® Scope-to-Scope Software can be used on any person undergoing a physical assessment.

Operator Profile

The Littmann® Scope-to-Scope Software is designed to be used by anyone who is familiar with the Littmann® Electronic Stethoscope Model 3200 and who wishes to transfer body sounds over a data network in real time. The Littmann® Scope-to-Scope Software user manual provides complete information on how to operate the software program; thus no additional operating training is required.

Functional Description

The 3M™ Littmann® Scope-to-Scope Software provides for the real-time transmission of body sounds from one 3M™ Littmann® Electronic Stethoscope Model 3200 to another Littmann® Electronic Stethoscope Model 3200 over a data network. The sound captured by the stethoscope chestpiece at the Patient site can be heard equivalently at both the Patient and Consulting sites through the Littmann® Electronic Stethoscope Model 3200's binaural headset.

Both sites' Littmann® Electronic Stethoscope Model 3200 are connected to Microsoft Windows-based personal computer (PC) via a Bluetooth® wireless link. The two PC's are then connected to each other over a TCP/IP data network. The software allows for the Consulting site to remotely control the Patient site's filter settings when connected. The software also provides for the ability to facilitate verbal communication using the stethoscopes' Talk-through feature that utilizes an expanded frequency range to better capture voice audio. This allows the Consultant to provide verbal cues and/or directions to the Patient site clinician.

This User Manual provides instructions for use of the Littmann® Scope-to-Scope Software program and assumes the user is familiar with the Microsoft Windows operating system on PC's. 3M recommends that all personnel who use this software program thoroughly read and understand this User Manual. Use this product only with the Littmann® Electronic Stethoscope Model 3200 or other 3M approved products.

System Requirements

- Windows XP SP2 & SP3, Vista SP2, Windows 7 32 & 64 bit
- 1 GB of RAM or more
- 1 GHz or faster processor
- 1024 x 768 or higher-resolution display
- USB 1.1 port or greater
- Network Port 3200 (default setting and can be changed)
- 128Kbps Minimum Dedicated Bandwidth

IT Network Requirements:

- A standard TCP/IP based network with DHCP or static IP address assignment. PC-to-PC connectivity is supported via hardwire (i.e. CAT5) or wireless (i.e. 802.11g). The minimum dedicated bandwidth required per active Consultant/Patient connection is 128kbps.
- The Littmann® Scope-to-Scope Software requires communication through a TCP/IP port assignment. The port utilized by the application is configurable but by default is set to port 3200. The Patient and Consultant applications use bidirectional TCP/IP communication.
- The Littmann® Scope-to-Scope Software incorporates standard encryption techniques to encrypt the network communications between the Patient and Consultant applications.

Specifications of the USB Wireless Dongle:

- Compliant with Bluetooth® V1.1, V1.2 & V2.0.
- Supporting profiles: Networking, Dial-up, Fax, LAN access, and Headset.
- Operating system: Windows XP, Vista & 7.

- Interface: Compliant with USB 1.1 & 2.0.
- Data transmission rate: 3Mbps.
- Working distance: 5-10m.
- FCC approval: FCC ID - WQ7 I-BTD-04.

NOTE: The USB Transceiver device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received, including interference that may cause undesired operation.

FCC NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

INSTRUCTIONS FOR USE

NOTE: The 3M™ Littmann® Scope-to-Scope Software program contains two separate applications:

1. **Patient Site:** Intended to be used by the healthcare presenter - one who is intending to transmit patient sounds to a healthcare provider.
2. **Consultant Site:** Intended to be used by the healthcare provider - one who is intending to listen to a remote patient.

In order for the Littmann® Scope-to-Scope Software to function properly, two PC's must have the software installed. Furthermore, one PC must be running the Consultant Site application and one PC must be running the Patient Site application.

1. Install and activate the Littmann® Scope-to-Scope Software

1. Insert the CD into the CD-ROM drive on the computer.
2. The installation program will start automatically. If the program does not start, open the CD folder and double click the file labeled setup.exe.
3. Follow the on-screen instructions to guide you through the installation and activation process.

NOTE: The software can be automatically activated if an internet connection is available (preferred). Otherwise, the activation code can be obtained by calling the customer service hotline at 1-800-228-3957 or by submitting a request via the Contact Us page on www.Littmann.com; please provide the machine code and serial number listed on the activation screen.

2. Insert and install the USB wireless adaptor (dongle)

The USB dongle allows communication between the 3M™ Littmann® Electronic Stethoscope Model 3200 and the PC on which the Littmann® Scope-to-Scope Software is installed. The dongle receives and transmits data via the commonly accepted Bluetooth® short range wireless connectivity standard. To install the dongle, insert the device into an open USB port of the PC. The Add New Hardware Device Wizard should start and install the USB dongle driver automatically. When running properly, a green light on the USB dongle will flash.
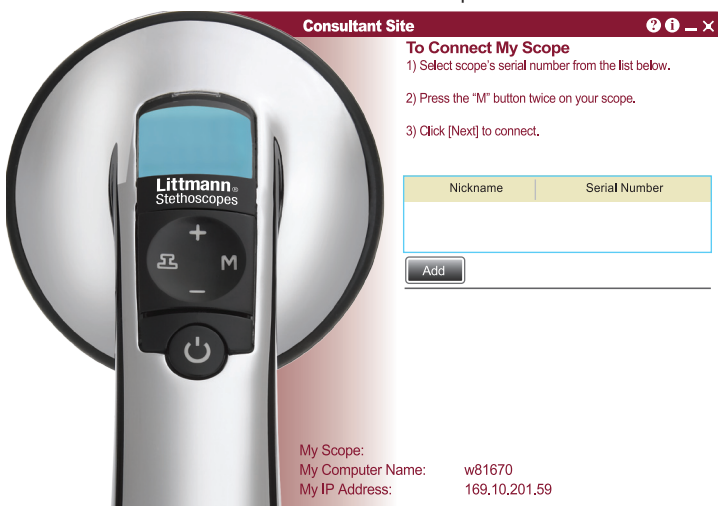
3. Start the Littmann® Scope-to-Scope Software

With the USB dongle inserted into the PC, double click on either the Patient or Consultant desktop icon.

NOTE: The dongle must be inserted into the USB port of the PC prior to starting the Littmann® Scope-to-Scope Software.

4. Pair the Littmann® Electronic Stethoscope Model 3200 to the Littmann® Scope-to-Scope Software at both the Patient and Consultant Sites

*Consultant Site GUI shown. Patient Site GUI is same except blue.

1. Click the [Add] button on the software to pair the stethoscope.

2. Turn on the stethoscope.

3. Press the [M] button on the stethoscope to enter the Main menu.

4. In the Main menu, press the [-] button until PAIR is selected.

5. Press the [M] button again to select PAIR.

6. Click the [OK] button on the software.

Note: Pairing of any individual Littmann® Electronic Stethoscope Model 3200 with a specific PC should only be required once, unless there are software or hardware changes to the PC or Bluetooth® dongle.

5. Connect the 3M™ Littmann® Electronic Stethoscope Model 3200 to the 3M™ Littmann® Scope-to-Scope Software and connect the Patient and Consultant Sites.

NOTE: In order to establish a connection between the Patient and Consultant sites, the Patient Site must first connect their stethoscope to the Patient Site software, at which time the Patient Site will enter a waiting status. The Consultant Site must now connect their stethoscope to the Consultant Site software, and then select and initiate a connection to the Patient Site. The Patient Site must then grant permission for the Consultant Site connection.

Patient Site:

Connect the Littmann® Electronic Stethoscope Model 3200 to the Patient Site Littmann® Scope-to-Scope Software

a. Power on the stethoscope and press the [M] button twice to select CONNECT. Ensure the Bluetooth® icon on the stethoscope display is flashing.

b. Using the software, select your stethoscope ID from the list. Click [Next] to continue.

c. The Patient Site will now wait for the Consultant Site to initiate a connection.

NOTE: If the stethoscope is connected to the Littmann® Scope-to-Scope Software, the Bluetooth® icon on the stethoscope display will stop flashing and become solid. The display on the software will show the volume and filter setting, the battery life indicator, and the solid Bluetooth® icon. Adjusting the volume or filter setting on the software will adjust the respective setting on the stethoscope, and visa versa.

Consultant Site:

1. Connect the Littmann® Electronic Stethoscope Model 3200 to the Consultant Site Littmann® Scope-to-Scope Software.

    a. Power on stethoscope and press the [M] button twice to select CONNECT. Ensure the Bluetooth® icon on the stethoscope display is flashing.

    b. Using the software, select your stethoscope ID from the list. Click [Next] to continue.
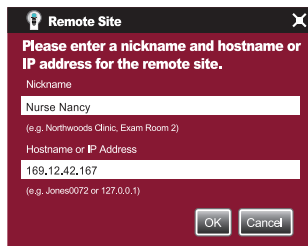

NOTE: If the stethoscope is connected to the Littmann® Scope-to-Scope Software, the Bluetooth® icon on the stethoscope display will stop flashing and become solid. The display on the software will show the volume and filter setting, the battery life indicator, and the solid Bluetooth® icon. Adjusting the volume or filter setting on the software will adjust the respective setting on the stethoscope, and visa versa.

2. Establish link to the Patient Site using the 3M™ Littmann® Scope-to-Scope Software:

  a. Add a Patient Site

    i. Click the [Add] button to add a Patient Site.

    ii. Enter the IP Address or Hostname of the Patient Site. The Patient Site's IP address is located at the bottom of the Patient Site's Littman® Scope-to-Scope Software interface. Obtain the IP Address from the Patient Site and enter it into the IP Address or Hostname text box.

    iii. Assign a Nickname to the Patient Site for easy identification in the future.

    iv. Click [OK]

  b. Select the Patient Site from the list

  c. Click [Next]. The Consultant Site will initiate a connection to the Patient Site.

Patient Site: The Patient Site must grant permission for the Consultant Site connection request.

6. Live Connection

When the connection is successful, you will notice a green oval on the Littmann® Scope-to-Scope Software. You will also notice the Listen symbol on the software display screen as well as on the 3M™ Littmann® Electronic Stethoscope Model 3200 display screen.

Consultant Site

Listening
You are currently listening the Patient site's stethoscope.

Click [Talk] or the [M] button on your scope to enable talk through to the Patient site.

Click the [Filter] button to change frequency mode.

Click [Back] to end the link or select a different Patient site to link to.

Talk

Back

Connection Information
Excellent

Remote Site: 169.12.42.167

My Scope: 0008090000000300
My Computer Name: w81670
My IP Address: 169.10.201.59

- The Consultant Site stethoscope will be listening to the sounds originating from the Patient Site stethoscope. The Consultant Site stethoscope chestpiece is inactive during Listen mode.

- The Patient Site stethoscope will also be listening to the sounds originating from the Patient Site stethoscope.

- The volume is independently controlled on each stethoscope and does not impact the remote stethoscope.

- The Consultant Site stethoscope controls the filter setting on both the Consultant and Patient Site stethoscopes.

- To initiate Talk-through mode (Consultant Site only), press the [M] button on the Consultant Site stethoscope. The user of the Consultant Site stethoscope can speak into the chestpiece while the user of Patient Site stethoscope listens through the eartips. Press the [M] button again to return to Listen mode.

- The volume, filter, and Talk-through (Consultant Site only) features can be controlled using the stethoscopes themselves; interaction with the Littmann® Scope-to-Scope Software is optional.

During Listen mode, the stethoscope will display:

During Talk-through mode, the stethoscope will display:

NOTE: Please ensure all 3M™ Littmann® Electronic Stethoscopes Model 3200 have the FILTERS setting set to 3 in the SETUP menu of the stethoscope (3 is the default setting). This will ensure congruency and the proper display of the filter icon on the stethoscope during the Live Connection. This should not to be confused with the SET FLTR (filter) option in the stethoscope menu which selects the default filter setting (Bell, Diaphragm or Extended Range) upon stethoscope start-up.

7. Discontinue the Telemedicine Consultation

To discontinue the telemedicine consultation, press the [Back] button on either the Consultant or Patient Site 3M™ Littmann® Scope-to-Scope Software.

8. Disconnect the Littmann® Electronic Stethoscope Model 3200 from the Littmann® Scope-to-Scope Software

To disconnect the stethoscope from the software, press the [Back] button on the software. Or, press the power button on the stethoscope.

9. Other Features/Options

- To remove a stethoscope from the list, select the Stethoscope ID and then click the [Delete] button.

- To remove a Patient Site from the list on the Consultant Site software, first connect a Littmann® Electronic Stethoscope Model 3200 to the Consultant Site software. Then, select the Patient Site and click the [Delete] button.

- Click the Help button for searchable help.

- Click the About button for software version and customer service information.

10. Methods and Technique for Proper Auscultation

When using the Littmann® Electronic Stethoscope Model 3200, there are several techniques that are important to consider that can substantially improve your auscultation experience.

a. The sound sensor, where all sound acquisition occurs, is quite small and located in the very center of the chestpiece (lift the edge of the diaphragm and look for the indentation under the white sticker). The area around the sound sensor does not contribute to sound acquisition. Therefore, it is important to focus the point of contact with the patient on the very center of the chestpiece.

b. Only light contact is necessary with the Littmann® Electronic Stethoscope Model 3200. This includes both the handling of the stethoscope and the contact on the patient. Excessive pressure on the patient may result in artifact sounds.

c. Contact with the patient must remain steady and consistent for optimal sound quality. Movement of the chestpiece against the patient will induce frictional noise.

Finally, it is important to recognize the difference in technique between mechanical stethoscopes and the electronic stethoscopes. Holding the Littmann® Electronic Stethoscope Model 3200 lightly, making light contact with the patient, focusing the point of contact on the center of the chestpiece, and remaining steady will assure the highest sound quality auscultation experience.

11. Bluetooth® Communication

Follow these tips to optimize Bluetooth® communication and prevent lost wireless connections:

- Auscultate the patient as close to the PC and Bluetooth® dongle as possible.
- Avoid having objects or people between the stethoscope and the Bluetooth® dongle.
- Avoid having your hand cover the entire chestpiece of the stethoscope (location of the Bluetooth® antenna.)
- Use a 90 degree USB adaptor or a USB extension cord to improve and optimize Bluetooth® transmission.

12. Littmann® Electronic Stethoscope Model 3200 Customer Service and Warranty Program

For questions or concerns regarding to the Littmann® Scope-to-Scope Software or the Littmann® Electronic Stethoscope Model 3200, please contact our customer service hotline at 1-800-228-3957 or visit www.Littmann.com for Frequently Asked Questions and the Contact Us page.

Your Littmann® Electronic Stethoscope Model 3200 comes with the finest service and warranty policy in the industry. The stethoscope is warranted against any defects in material and workmanship for a period of two (2) years. If a material or manufacturing defect is discovered during the warranty period, repairs will be made without charge upon the return of the instrument to 3M, except in cases of obvious abuse or accidental damage. For maintenance or repair services, write a short note explaining the repair or service you require; include your name, address and phone number and send your stethoscope directly to:

3M Health Care Service Center
Bldg. 502, Suite 200
3350 Granada Ave. North
Oakdale, MN 55128
1-800-292-6298

IN CANADA:
3M Health Care Service Centre
3M Canada Inc.
1798 Oxford Street East
London, Ontario
Canada N5V 3R6
1-800-268-6235

Outside of the U.S. and Canada please contact your local 3M subsidiary for maintenance and repair information.

13. Acknowledgements

The 3M™ Littmann® Scope-to-Scope Software uses the following frameworks:

32feet.NET 2.5.125
http://32feet.codeplex.com/
Licensed under the In The Hand Community License (Derived from the Microsoft Reciprocal License (Ms-RL)).

Ninject 2.0.0
http://ninject.org/
Licensed under the Apache License, Version 2.0.

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(U.S.A.) 1 800 228-3957

Visit our web site: http://www.littmann.com

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Attention, see
instructions for use